

90.09.25 90CH-003077 (96.10.02) C09B 62/002, D06P 1/38 // C09B 67/22

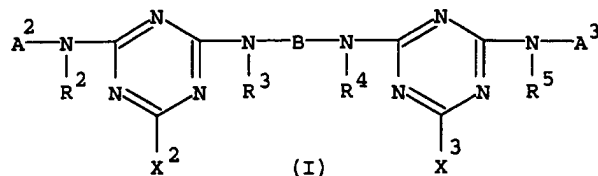
Fibre reactive dyes giving fast dyeing of cellulosic fabrics - having two di:amino:triazine gps. linked by an aliphatic bridging gp. and carrying dye residues (Ger)

C96-136738 R(BE CH DE ES FR GB IT LI)

Addnl. Data: TZIKAS A

91.09.17 96EP-109923, Div ex 91.09.17 91EP-810734

Fibre reactive dyes of formula (I) are new.



A<sup>2</sup> and A<sup>3</sup> = the residue of a monoazo-, polyazo-, metal complex azo-, anthraquinone-, phthalocyanine-, formazan-, azomethine-

, dioxazine-, phenazine-, stilbene-, triphenylmethane-, xanthene, thioxanthone-, nitroaryl-, naphthoquinone-, pyrenequinone- or perylenetetracarbinide dye;  
R<sup>2</sup>-R<sup>5</sup> = H or 1-4C alkyl which may be substd. by halogen, OH, CN, 1-4C alkoxy, 1-4C alkoxycarbonyl, carboxy, sulphamoyl, sulpho or sulphato;  
B = an aliphatic bridging member; and  
X<sup>2</sup> and X<sup>3</sup> = F, Cl, Br, sulpho or carboxypyridinium gp.

#### USE

For dyeing and printing of cellulose-contg. fibre materials, esp. cotton, using the exhaustion process or the continuous dyeing process.

#### ADVANTAGE

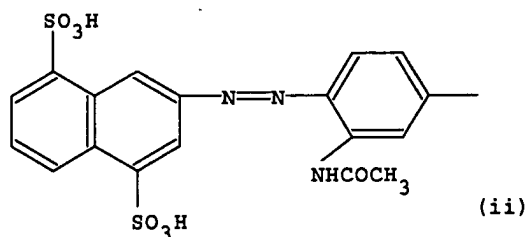
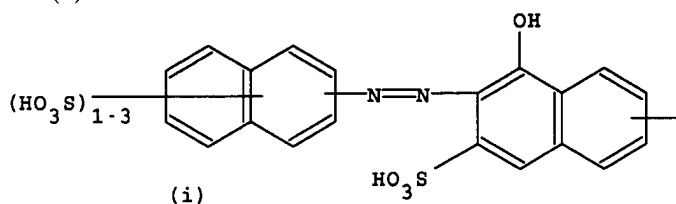
Gives dyeings with excellent wet fastness and light fastness.

#### PREFERRED DYESTUFFS

The linking gp. B is pref. -(CH<sub>2</sub>)<sub>2-6</sub>- or cyclohexylene which is opt. substd. by 1-4C alkyl. Twelve suitable residues of monoazo

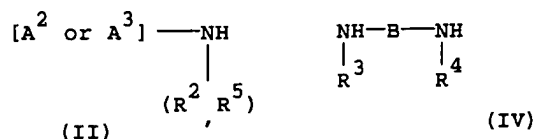
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chromophores for A<sup>2</sup> and A<sup>3</sup> are claimed, including those of formula (i) and (ii).



#### PREPARATION

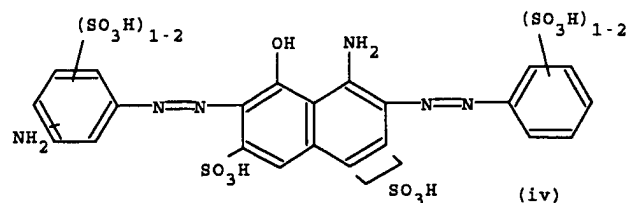
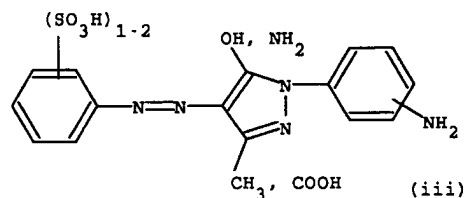
(I) are prepd. by reacting two equivs. of an organic dye of formula (II), or a dye precursor, at least one equiv. of an s-triazine (III) and at least one equiv. of a diamine or formula (IV), in any suitable order and, in the case where a dye precursor has been used, converting the intermediate prod. into the required dyestuff.



#### STARTING MATERIALS

25 dyes (VI) suitable as starting materials are disclosed including monoazo, diazo, metal complex and phthalocyanine types such as those of formula (iii) and (iv).

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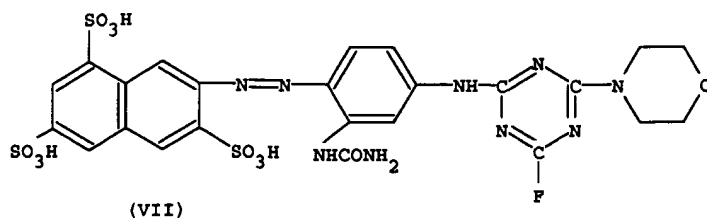
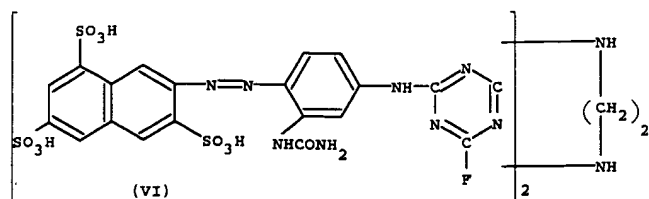
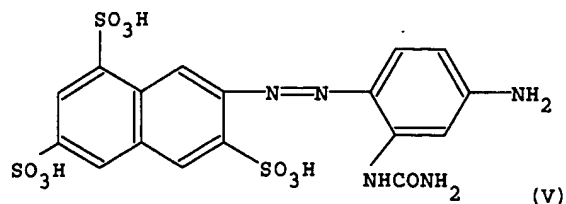
The s-triazine (III) is e.g. 2,4,6-trifluoro-s-triazine, 2,4,6-trichloro-s-triazine, 2,4,6-tribromo-s-triazine or 2,4,6-trisulpho-s-triazine. The diamine (IV) is e.g. 1,2-diaminoethane or 1,3-diaminopropane.

#### EXAMPLE

27.3 pts. of a dye of formula (V), was dissolved in 600 pts. vol. water and condensed with 7 pts. 2,4,6-trifluoro-s-triazine. When no

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further diazotisable amino gps. could be detected, an aq. soln. contg. 0.75 pts. ethylenediamine and 2.2. pts. morpholine was added at 0-5°C and pH 5-7. The pH of the mixt. was maintained at 7.5 by the addn. of Na<sub>2</sub>CO<sub>3</sub> and the mixt. was warmed slowly to 25°C. After condensation was complete buffer salts were added and the dye mixt. was pptd. with NaCl, washed and dried. The prod. was an orange powder consisting of a mixt. of dyes of formula (VI) and (VII) and which dyed cotton in golden yellow shades. (HW)



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